

# HRRSA

## HARRISONBURG-ROCKINGHAM REGIONAL SEWER AUTHORITY

Post Office Box 8  
856 North River Road  
Mt. Crawford, VA 22841  
Telephone: 540-434-1053  
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July 8, 2009

Mr. John M. Kennedy  
DEQ-Office of Water Quality Programs  
629 East Main Street  
Richmond, VA 23219

**Re: HB 2074 / SB1022 Petition – North River WWTP**

Dear Mr. Kennedy:

The enclosed petition requests the consideration of the State Water Control Board to extending the nutrient allocation footnote deadline for HRRSA to complete the complex North River Plant expansion and secure a CTO for at least 20.8 MGD. Though the project is far along, it faces a risk of not reaching completion by December 31, 2010 for the reasons outlined in the petition. Accordingly, HRRSA is requesting a one-year extension. Please contact me if you have any questions or need further information.

Thank you for your consideration.

Sincerely,



Curtis L. Poe  
Executive Director

Harrisonburg-Rockingham Regional  
Sewer Authority,  
Petitioner.

In re: Water Quality Management \*  
Planning Regulation, 9VAC25-720-50.C. \*  
\*

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## **II. SUBSTANCE AND PURPOSE OF THE REQUESTED RULEMAKING**

### **A. Requested Amendment**

For the reasons set forth herein, HRRSA respectfully requests that the SWCB amend footnote (2) to the nutrient allocation table in 9VAC25-720-50.C., to extend the CTO deadline by one (1) year from December 31, 2010 to December 31, 2011. If approved, footnote (2) would be amended as follows:

(2) Harrisonburg-Rockingham Regional S.A.-North River STP: waste load allocations (WLAs) based on design flow capacity of 20.8 million gallons per day (MGD). If the plant is not certified to operate at 20.8 MGD or higher design flow capacity by 12/31/11, the WLAs will decrease to TN = 194,916 lbs/yr; TP = 14,619 lbs/yr, based on a design flow capacity of 16.0 MGD.

### **B. Justification**

HRRSA is a public body created pursuant to the Virginia Water and Waste Authorities Act, Va. Code § 15.2-5100 *et seq.* HRRSA owns and operates the North River Plant. The North River Plant is located in Rockingham County, Virginia and serves residents, businesses and institutions in the City of Harrisonburg, County of Rockingham, and Towns of Bridgewater, Dayton, and Mount Crawford.

HRRSA is seeking this extension to address the risk that the contractor constructing this large, complex expansion and nutrient technology upgrade of the North River Plant may not complete the project and the CTO may not be issued by DEQ by December 31, 2010. From the start, the project has been implemented diligently and on an aggressive schedule so as to avoid the need for any extension. Although the project is nearly on schedule to meet the deadline, the schedule is tight and there is a risk of missing the deadline due to circumstances beyond the reasonable control of HRRSA, such as adverse weather; availability and performance of labor, materials and equipment; and necessary changes in the work over the remaining 18 months. This is

a precautionary request for the sole purpose of eliminating this risk, uncertainty, and the harsh result under Note (2) that could otherwise result, if this large and expensive 22.0 MGD project encounters unanticipated construction delays during the remainder of the project.

The following milestones and other project information demonstrate that HRRSA has managed the entire project in a diligent and efficient manner.

- 1. Engineering Contract** – HRRSA issued in a Request for Qualifications in December 2004. HRRSA awarded the engineering contract to O'Brien & Gere Engineers, Inc. ("Engineer") in May 2005.
- 2. Preliminary Engineering Report ("PER")** – The Engineer completed the PER and submitted the PER to DEQ in July 2006. DEQ approved the PER in February 2007.
- 3. Water Quality Improvement Fund ("WQIF") Grant Agreement** – HRRSA applied for a WQIF grant in November 2005. DEQ and HRRSA entered into a WQIF Grant Agreement as of June 2007.
- 4. Plans and Specifications** – The Engineer completed and submitted Plans and Specifications to DEQ in June 2007. DEQ approved them and issued a Certificate to Construct in December 2007.
- 5. Construction Contract** – HRRSA issued a Request for Proposals in June 2007. HRRSA awarded the construction contract to Ulliman Schutte Construction, LLC in September 2007. Construction commenced in September 2007.

Through May 2009, the general contractor has received credit for Work Completed, excluding stored material, totaling \$57,675,207 of the current \$79,721,322 contract amount. This indicates 72 % of the value of the construction has been completed. Attached Exhibit C- VRLF

Project Evaluation Report, dated May 13, 2009 provides a more detailed listing of the actual construction progress.

The remaining work and schedule involves completing the installation and start-up of numerous new facility components to allow time for modifications to existing plant components, thus allowing the facility to achieve the expanded 22.0 MGD design flow.

The current project status indicates the construction contractor may or may not complete the project very near the December 31, 2010 deadline. The contractor has current outstanding claims seeking in excess of 180 additional days. It is the risk associated with timely completion that this petition seeks to mitigate through a one-year extension of the CTO deadline. This project is complex and large in scale. HRRSA seeks to protect its existing nutrient allocations associated with expansion still under construction from any unforeseen events which may arise and delay construction and ultimate completion of the project by December 31, 2010.

HRRSA would like to emphasize that HRRSA is committed to completing the project expeditiously and, even upon approval of this petition, HRRSA would strive to maintain the construction schedule and complete construction very near the current December 31, 2010 CTO deadline. In other words, the intent of this request is that the extension would only apply if needed. Accordingly, HRRSA would not be opposed to a grant of this petition that included a narrative condition still requiring HRRSA to undertake its best efforts to obtain a CTO by the original December 31, 2010 deadline.

### **III. LEGAL AUTHORITY**

Proper legal authority exists for this petition under Senate Bill 1022 approved March 30, 2009 (2009 Acts of Assembly Chapter 704); House Bill 2074 approved March 27, 2009 (2009 Acts of Assembly Chapter 361); the Administrative Process Act, specifically Va. Code § 2.2-4007

regarding petitions for amended regulations; and the SWCB's Public Participation Guidelines, specifically section 9VAC25-11-60 regarding petitions for rulemaking.

**IV. SUPPORTING DOCUMENTS (EXHIBIT LIST)**

- A. DEQ Certificate to Construct (CTC)
- B. HRRSA Notice to Proceed to Ulliman Schutte Construction
- C. VRLF Project Evaluation Report (May 13, 2009)

**V. CONCLUSION**

For the foregoing reasons, HRRSA's petition should be granted and the deadline for HRRSA to obtain a CTO for the expansion of the North River Plant's capacity to 22.0 MGD should be extended by one year to December 31, 2011.

Respectfully submitted,



Curtis L. Poe, Executive Director

Date: July 8, 2009

**Virginia Clean Water Revolving Loan Fund**

**PROJECT EVALUATION REPORT**

**Project Name:** HRRSA – North River WWTP Expansion and Upgrade

**Date:** May 13, 2009

**Project Number:** VCWRLF # C-515372-02 & C-515372-02A WQIF # 440-S-07-21

**Evaluation Number:** 14

**Date of Last Evaluation:** February 20, 2009

**Evaluator(s):** R. E. Fawley

**Initial Loan Amount:** \$ 30,000,000 (C-515372-02)

**Grant Amount:** \$ 26,826,387 per Modification No.1

**Second Loan Amount:** \$ 34,000,000 (C-515372-02A)

**Type of Evaluation**

>Interim ..... Yes [ ☒ ]

>Final (Attach CTO Inspection)..... Yes [ ☐ ]

**Persons Contacted**

<b>Name &amp; Title</b>	<b>Representing</b>	<b>Telephone Number</b>
<u>Curtis Poe, Executive Director</u>	<u>HRRSA</u>	<u>540-434-1053</u>
<u>Nancy Showalter, Office Manager</u>	<u>HRRSA</u>	<u>540-434-1053</u>
<u>Josh Baritell, Construction Supervisor</u>	<u>O'Brien &amp; Gere</u>	<u>540-801-0980</u>

**VCWRLF and WQIF Grant Disbursements**

C-515372-02 \$30,000,000 loan disbursed in full. No further action.

<b>VCWRLF: Disbursements Requested –C-515372-02A</b>	<b>Disbursements Received</b>
Loan Number: 7A	Loan Number: 6A
Cumulative Amount: \$15,290,226.68	Cumulative Amount: \$12,546,440.12
Date: May 11, 2009	Date: April 28, 2009
Percent Complete of -372-02A Loan by Requested Disbursements: 45%	

<b>WQIF Grant: Disbursements Requested</b>	<b>Disbursements Received</b>
Grant Number: 19	Grant Number: 18
Cumulative Amount: \$18,973,432.02	Cumulative Amount: \$ 17,822,796.07
Date: May 11, 2009	Date: April 28, 2009
Percent Complete by Requested Disbursements: 71%	

**Overall Comments & Recommendations:** 1) Please ensure that loan and grant program staff is aware of potential change order items so that eligibility reviews can be completed.

**Construction/Contract Accounting and Management**

(See Attached Total Expense Data Sheet for Details)

1. Does the Construction Account separate ineligible items (if applicable) and list engineering costs, administrative costs, legal costs, and actual construction costs by contract? .....Yes [ ☒ ]      No [ ☐ ]
2. Are Contractor invoices available? .....Yes [ ☒ ]      No [ ☐ ]  
**#19 thru April 30, 2009.**
3. Contractor invoices identify:
  - a. Work-in-place .....Yes [ ☒ ]      No [ ☐ ]
  - b. Materials on site .....Yes [ ☒ ]      No [ ☐ ]
  - c. Eligible/ineligible items (if applicable) .....Yes [ ☐ ]      No [ ☐ ] N/A
  - d. Change orders .....Yes [ ☒ ]      No [ ☐ ]
  - e. Are they verified by the A/E? .....Yes [ ☒ ]      No [ ☐ ]
4. Are payments to contractors documented? .....Yes [ ☒ ]      No [ ☐ ]  
**(Payments shown in the monthly trustee statements.)**
5. Are payments to contractors being made in a timely manner? .....Yes [ ☒ ]      No [ ☐ ]  
**(Payment typically confirmed by review of trustee statement for the following month.)**



6. Are A/E invoices available? .....Yes [ ☒ ] No [ ☐ ]
7. Do A/E invoices identify inspection fees, O&M Manual preparation, office personnel, etc., or are based on Lump Sum contract? .....Yes [ ☒ ] No [ ☐ ]
8. Are payments to A/E documented and made in a timely manner? .....Yes [ ☒ ] No [ ☐ ]
9. Is Force Account Work appropriately documented (*including*)? ..... **NOT APPLICABLE** [ ☒ ]
- a. Time cards .....Yes [ ☐ ] No [ ☐ ]
- b. Description of work performed .....Yes [ ☐ ] No [ ☐ ]
- c. Materials and equipment purchased .....Yes [ ☐ ] No [ ☐ ]
- d. Equipment usage, etc. ....Yes [ ☐ ] No [ ☐ ]

**Comments:****Disbursements**

10. Are Disbursement Requests adequately documented? .....Yes [ ☒ ] No [ ☐ ]
11. Are loan Disbursement Requests consistently within +/- 10% of the current Loan Disbursement Schedule? ..... Yes [ ☐ ] No [ ☒ ]

**ACTUAL PERCENT OF LOAN DISBURSEMENT SCHEDULE** ..... 79 %

**Thru loan requisition request #7A, dated 5-11-09**

12. Is the Loan Disbursement Schedule up-to-date? .....Yes [ ☒ ] No [ ☐ ]

**Date of last adjustment:** 11-25-08

Change Orders (See Attached Change Order Log for Details)

13. Do any change orders need to be:

a. Submitted to DEQ for eligibility review?.....Yes [ ] No [ ☒ ]

b. Submitted to DEQ (OWE) for technical review.....Yes [ ] No [ \* ]

\*#'s 12 and 13 to be sent to OWE as soon as #13 is approved.

**NO CHANGE ORDERS EXECUTED THIS PERIOD** ..... [ ]

WWTP Change Order No. 12 April 7, 2009

14. Documentation of change orders includes the following:

a. Description of change order.....Yes [ ☒ ] No [ ]b. Justification for change order.....Yes [ ☒ ] No [ ]c. Contractor's proposal .....Yes [ ☒ ] No [ ]

d. Independent engineering estimate.....Yes [ \* ] No [ ]

e. Negotiation (if necessary) .....Yes [ ☒ ] No [ ]f. Resulting change in cost or time.....Yes [ ☒ ] No [ ]

\* in consultant's files

15. Does the total amount of change orders exceed the contingency?.....Yes [ ] No [ ☒ ]

16. If so, has a request for loan amendment been submitted to DEQ? .....Yes [ ] No [ ]

N/A

Comments: Shenandoah Valley Electric Co-Op fees to be paid directly by HRRSA rather than from allowance in Contract 1.**MBE-WBE/Labor Standards Compliance**17. Is the MBE/WBE Utilization Form being completed and submitted correctly? .....Yes [ ☒ ] No [ ]

18. Are the firms reported on the MBE/WBE Utilization Form being utilized?.....Yes [ \* ] No [ ]

\* N/A this period.

19. Have the following been posted at the facility to allow employees opportunity to review?

EEO Notices Yes [ ☒ ] No [ ]OSHA Notices Yes [ ☒ ] No [ ]Comments: #19.: OSHA poster displayed. No EEO poster observed. New EEO poster provided following the staff visit.

**Construction Monitoring/Administration**

20. Do the daily inspection reports and project monitoring documentation include the following:

(Recipient receives copies of daily logs.) Testing reports for pipe and tanks were reviewed at this visit.

- a. Description of work activities..... Yes [ ☒ ]      No [ ☐ ]
- b. Quantities of work performed, materials consumed,  
equipment received/installed ..... Yes [ ☒ ]      No [ ☐ ]
- c. Material testing results ..... Yes [ ☒ ]      No [ ☐ ]
- d. Deficiencies or non-compliance with  
contract documents..... Yes [ ☒ ]      No [ ☐ ]
- e. Corrective actions taken..... Yes [ ☒ ]      No [ ☐ ]
- f. Discussion with contractor personnel ..... Yes [ ☒ ]      No [ ☐ ]
- g. Weather and site conditions..... Yes [ ☒ ]      No [ ☐ ]

21. Are progress schedules being maintained?..... Yes [ ☒ ]      No [ ☐ ]

**Consultant has requested a time impact analysis schedule.**

22. Is construction proceeding according to schedule?..... Yes [ ☐ ]      No [ ☒ ]

**Contractor pay estimates indicate that work is not on schedule. Schedule shows negative float on many schedule items.**

23. Are shop drawings being submitted on a timely basis?..... Yes [ ☒ ]      No [ ☐ ]

24. Are shop drawings being reviewed and approved by the A/E? ..... Yes [ ☒ ]      No [ ☐ ]

**A/E maintains a submittal log.**

25. Are as-built drawings being prepared as appropriate? ..... Yes [ ☒ ]      No [ ☐ ]

26. Have any claims been filed? ..... Yes [ ☒ ]      No [ ☐ ]

27. If so, has the Loan Recipient documented its position? ..... Yes [ ☒ ]      No [ ☐ ]

**Comments:** Nos. 26 & 27: Change Order #5 notes disagreement on matters of time associated with the contract and preserves each party's position. Claim log maintained. Contractor, consultant, and owner to discuss today the contractor's claim regarding influent pump station #2.

Construction Review**28. Spot on-site construction surveillance - general work areas:**

Reported that all tanks constructed to date have passed leakage tests.

Existing influent pump station: New trash rakes not yet installed.

Influent pump station #2: Excavation completed with base slab rebar and concrete placed. Recent and ongoing work on rebar, formwork, and concrete for walls.

Grit removal units #5 & #6: base slabs constructed with recent and ongoing work on rebar, formwork, and concrete placement for walls.

Primary sludge pump stations: base slabs constructed with recent and ongoing work on rebar, formwork, and concrete placement for walls.

Bioreactors: Structural work for #'s 9 & 10 completed with backfill and recent and ongoing work on baffle walls, air headers, diffusers, mixer masts, mixers, recycle piping, and handrailing. Structural work completed for #'s 11 & 12 with ongoing work on baffle walls, air headers, recycle piping, and handrailing.

Secondary anoxic reactors: Structural work completed including flow channel construction with backfill and work on baffle walls, air headers, diffusers, flow control gates, and handrailing. Acetic acid pad constructed and tanks are on site. Blower pad base constructed and blower control building constructed with recent and ongoing work setting MCC's and VFC's. Ongoing electrical and mechanical work.

Clarifiers: #'s 5 and 6: Constructed and backfilled with mechanical and weirs installed. Ongoing electrical work at the clarifier drives.

RAS/WAS pump stations: RAS/WAS pump station #'s 2 and 3 constructed and backfilled. Block and brick work completed and buildings under roof. Most mechanical and significant electrical completed with ongoing mechanical and electrical this date. Transformers set.

Tertiary filter pump station: no work in this area.

Chlorine contact tank/Parshall flume: Tanks constructed and significant backfill around the tanks. Recent and ongoing work on effluent flow channels and connecting DIP.

Chemical buildings/pump stations: Continuing effort on electrical changes.

Sludge storage tank building: Tanks constructed with air headers, diffusers, sludge piping, and stairs installed on exterior. MCC's and VFC's set inside. HVAC ductwork installed. Mechanical equipment set. Electrician is installing conduit this date. Transformers have been set.

Solids handling building: Retaining wall completed and block and brick work are completed and building under roof. Thickeners and press set on pedestals inside. Conveyor chute installed from the press to exterior. Ongoing work on metal catwalks.

Digesters: New recirculation equipment installed in #2 and it is back in service. Authorization has been given to begin cleaning and demo for #1.

Electrical buildings: Electrical work at various locations throughout the site.

Administration/control building: Building closed in, tile floor installed in entry way and lab with casework installed in lab. Wall tile installed in restrooms. Rough-in HVAC, electrical, and mechanical completed with wall partitions constructed, taped and primed. Ceiling tile support grid installed. Interior wooden doors installed and showing some damage/nicks on corners. Transformers set.

Site work/yard piping: Ongoing work at numerous areas across the site.

**Condition of Erosion Control Measures:** No active erosion problems observed.

Compliance with Loan Conditions**29. Status of Sewer Use Ordinance:**

On November 16, 2006 the Operating Rules and Regulations with member jurisdiction pretreatment programs and supporting information were approved as meeting loan program requirements.

**30. Status of O&M Manual:**

Article VI of the DEQ WQIF grant agreement requires that an O & M manual be developed and submitted within 90 days of issuance of the Certificate to Operate for the expanded/upgraded facility. The DEQ Office of Wastewater Engineering issuance of the Certificate to Construct lists O & M manual requirements as approval condition No. 1. in the December 11, 2007 issuance letter. The DEQ loan program will limit loan program payments to 95% of the final loan amount until the O & M manual is submitted. Draft O & M manual has been prepared.

**31. Status of I/I Program (if applicable):**

N/A

**32. Anticipated VRLF Initiation of Operation Date (if within 3 months):**

N/A this period. Preliminary process start up schedule provided 4-21-09.

**33. Status of any other conditions:**

1. The loan and grant programs have the option to limit fund disbursement to 95% of the approved loan and grant amounts until final completion. 2. On 4-23-08 DEQ OWE indicated that the digester mixing verification information required by the CTC is approved.

## Total Expense Data

**Project Name:** HRRSA – North River WWTP Expansion and Upgrade

**Total Expense Estimate Through:** Loan Requisition Request #6A and Grant Requisition Request #18, dated April 13, 2009

	Thru Pay Estimate #18 3-31-09	Notes
a) Work Complete	55,899,451.42	
b) Change Order Work Complete	1,226,917.10	
c) Subtotal (a+b)	57,126,368.52	
d) Materials on Hand	408,970.03	
e) Total Construction Expenses (c+d)	57,535,338.55	
f) Retainage	2,876,766.93	
g) Liquidated Damages	0.00	
h) Total Due Contractor [e-(f+g)]	54,658,571.62	
i) Payment Made	54,658,571.62	
j) Payment Due	0.00	
k) Orig. Contract	78,949,000.00	
l) Change Order Amount (Net)	772,322.00	
m) Adjusted Contract Price (k+l)	79,721,322.00	
n) (%) Adjusted Contract Complete (e/m)	72%	
<b>Preliminary and Final Engineering</b>		
o) Total Engineering Expenses	2,524,941.20	
p) Payments Made	2,524,941.20	
q) Payments Due (o-p)	0.00	
<b>MISCELLANEOUS</b>		
r) Legal/Administrative	23,000.00	
s) Construction Management	1,644,208.87	
t) Plant Start-up	0.00	
u) Equipment Procurement & SVEC	1,518,514.50	
<b>TOTAL (e+o+r+s+t+u)</b>	<b>63,246,003.12</b>	

# Virginia Clean Water Revolving Loan Fund

## Change Order Log

**Project Name:** HRRSA North River WWTP Expansion and Upgrade

**Bid Amount:** Contract 1 \$ 78,949,000.00

**Loan Project Number:** C-515372

**Original Completion Date:** November 16, 2010 (NTP date: September 17, 2007)

**Loan Program Contingency:** \$ 35,000.00

**Loan Contingency used:** \$Potentially the full amount: \$35,000.00

Change Order No. And Date	Description	Is Allowability An Issue*	If Yes, Final Determination	Change Order Amount/ Time	New Contract Total	New Contract Date
1 2-27-08	Provides larger pipe capacity for future potable water supply, revises duct bank due to conflict, provides electrical and support system for contact tank revision, adds digester pump per DEQ requirements, provides control building changes to meet fire rating requirements, adds contingent unit prices for geotextile fabric and #57 stone, deletes electric supplier allowance, and provides several other credits including consultant overtime inspection. See Change Order for details.	No	N/A	Provides a net reduction to the contract price of (\$815,286.00) "0" days	\$78,133,714.00	11-16-10
2 5-22-08	Modifies the blower piping to accommodate a standby blower, relocates additional electrical duct banks due to conflicts with new work, relocates a drain pipe in conflict with new work, provides a credit for revised mini-piling bid length, provides a credit for a waived performance test for aeration equipment, and provides a credit for overtime inspection.	No	N/A	Adds a net \$101,686.00 to the contract price "0" days	\$78,235,400.00	11-16-10
3 6-20-08	Provides process analytical instruments required by the CTC, revises NPW hydrants per owner request, adds drain openings/controls in the secondary anoxic tank, deletes a discharge chute for the gravity belt thickener as it is provided in Contract 2, and provides a credit for overtime inspection.	No	N/A	Adds a net \$285,104.00 to the contract price. "0" days	\$78,520,504.00	11-16-10
4 7-17-08	Adds standby blower per DEQ requirements (electrical & pad costs in future CO), makes electrical and control changes due to conflicts with existing ductbanks and wiring, raises lab cabinets to accommodate dishwashers' heights, modifies influent screen hoist support, provides a credit for unneeded grating, revises stair support due to field conflict, and provides a credit for overtime inspection.	No	N/A	Adds a net \$453,196.00 to the contract price. "0" days	\$78,973,700.00	11-16-10
5 7-5-08	Balance of work associated with chlorine contact redesign (CTC and CO #1) and provides language regarding contract time adjustment matters.	No	N/A	Adds a net \$379,943.00 to the contract price. "0" days	\$79,353,643.00	11-16-10
	(Table continued on next page)					

# Virginia Clean Water Revolving Loan Fund

## Change Order Log continued

6 8-27-08	Provides electrical work and concrete pad for the blower required in Change order #4, modifies the belt press piping to accommodate the required polymer mixing time, and provides a credit for overtime inspection.	No	N/A	Adds a net \$192,332.00 to the contract price "0" days	\$79,545,975.00	11-16-10
7 9-26-08	Revises the air handling motors to address control needs of the system, revises exhaust fans due to unavailability of the specified fans, increases a door size to accommodate equipment access, revises structural support for the grit equipment, adds supports to the attic stairs for proper support, and provides a credit for overtime inspection.	Yes	No credit provided for original door as bid. Loan will only pay for one door. \$3,930 is unallowable for funding	Adds a net \$24,192.00 to the contract price VCWRLF eligible: \$20,262.00 "0" days	\$79,570,167.00 VCWRLF eligible: \$79,566,237.00	11-16-10
8 10-16-08	Various electrical modifications replace pass-through window with a door and provides a credit for overtime inspection.	No	N/A	Adds a net \$37,745.00 "0" days	\$79,607,912.00 VCWRLF eligible: \$79,603,982.00	11-16-10
9 11-13-08	Additional instrumentation controls, piping modifications, and a credit for overtime inspection.	No	N/A	Adds a net \$25,038.00 "0" days	\$79,632,950.00 VCWRLF eligible: \$79,629,020.00	11-16-10
10 12-17-08	Various electrical modification, changes to yard piping, additional handrails, relocate motor valve vault, and a credit for overtime inspection.	No	N/A	Adds a net \$81,396.00 "0" days	\$79,714,346.00 VCWRLF eligible: \$79,710,416.00	11-16-10
11 2-13-09	Various electrical modifications, revisions to instrumentation controls, revise influent and effluent piping and limits of demolition of piping at final 1 & 2, adds plug valves, and a credit for overtime inspection.	No	N/A	Provides a net credit of (\$47,398.00) "0" days	\$79,666,948.00 VCWRLF eligible: \$79,663,018.00 0	11-16-10
12 3-19-09	Refines electrical, instrumentation and controls for various components, modifies site grading at the Control Building, adds valves at the GBT's and sludge piping, and modifies the GFI protection at several areas.	No	N/A	Adds a net \$54,374.00 "0" days	\$79,721,322.00 VCWRLF eligible: \$79,717,392.00	11-16-10

\*Eligibility under the WQIF grant program is tracked and provided under separate correspondence. Eligibility and payments will be reconciled when construction is 95% complete.



<b>Virginia Clean Water Revolving Loan Fund</b> <b>Change Order Log</b>
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**Project Name:** HRRSA North River WWTP Expansion and Upgrade - EQUIPMENT PROCUREMENT

**Loan Project Number:**C-515372

**Bid Amount: Contract 2: Gravity Belt Thickeners and Belt Filter Press: \$623,200.00**

**Contract 3: Monorail Trash Rakes: \$1,075,000.00**

**Contract 4: Center Feed Clarifier Equipment: \$447,410.00**

**Loan Program Contingency: \$ 35,000.00**

**Loan Contingency used: \$0.00**

[illegible]

\*Eligibility under the WQIF grant program is tracked and provided under separate correspondence. Eligibility and payments will be reconciled when construction is 95% complete.



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY

Preston Bryant  
Secretary of Natural Resources

**West Central Regional Office**  
3019 Peters Creek Road, Roanoke, Virginia 24019  
Telephone (540) 562-6700, Fax (540) 562-6725  
www.deq.virginia.gov

David K. Paylor  
Director

Steven A. Dietrich  
Regional Director

December 11, 2007

LOCATION: Rockingham County  
Receiving Facility – North River WWTP  
Project: North River WWTP Expansion and  
ENR Upgrade, Addenda #1- #5; DR 1-7  
PTL # 22821, 23008-11, 23406, 23407

Curtis Poe, P. E., Director  
Harrisonburg-Rockingham Regional Sewer Authority  
856 North River Road  
Mt. Crawford, VA 22841

Dear Mr. Poe:

This Department has received plans, specifications, addenda, and design revisions for the expansion and upgrade of the North River sewage treatment works in Rockingham County as prepared by O'Brien & Gere Engineers, Inc. The plans consist of 473 sheets entitled "North River WWTF Expansion and ENR Upgrade - Contract No. 1" and are dated June 2007. The specifications are entitled "Contract Documents - Harrisonburg-Rockingham Regional Sewer Authority - North River WWTF-Expansion and ENR Upgrade - Contract No. 1" and are dated June 2007. Contracts 2-4 provided for the pre-purchase of certain equipment. The additional contracts, addenda and design revisions are listed below.

Document	Date Issued	Content
Contract No. 2	April 2007	Gravity Belt Thickeners and Belt Filter Press Equipment Procurement
Contract No. 3	April 2007	Monorail Trash Rakes Equipment Procurement
Contract No. 4	April 2007	Center Feed Final Clarifier Equipment Procurement
Addendum No. 1	July 5, 2007	Adds 2 mixers to sludge storage tank #2; corrects and/or clarifies miscellaneous technical items; reissued 59 plan sheets
Addendum No. 2	July 12, 2007	Corrects and/or modifies miscellaneous technical items; reissued 34 plan sheets
Addendum No. 3	July 19, 2007	Corrects and/or modifies miscellaneous technical items; reissued 3 plan sheets
Addendum No. 4	July 24, 2007	Added several specification sections; corrects and/or modifies miscellaneous technical sections; reissued 17 plan sheets
Addendum No. 5	July 26, 2007	Corrects and/or modifies miscellaneous technical items; reissued 6 plan sheets
Design Rev. 1	October 10, 2007	Modified the line size of a potable water line; modified 7 plan sheets
Design Rev. 2	November 6, 2007	Resolves conflicts with electrical feeds near Bioreactor No.11; modified 5 plan sheets
Design Rev. 3	November 14, 2007	Redesigned chlorine contact tank design to provide 20 minutes contact at max day flows; modified 20 plan sheets
Design Rev. 4	November 20, 2007	Modified piping of sludge storage tank blowers to interconnect blowers; modified 3 plan sheets
Design Rev. 5	November 20, 2007	Added a standby pump for sludge digester recirculation; modified section 11340
Design Rev. 6	December 10, 2007	Adds ammonium, TOC/COD, and nitrate analyzers; modifies 18 sheets and modifies several spec sections
Design Rev. 7	December 10, 2007	Adds one additional blower to bioreactors @ 7591 scfm; modified 17 sheets and one spec section

Mr. Poe  
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LOCATION: Rockingham County  
Receiving Facility – North River WWTP  
Project: North River WWTP Expansion and  
ENR Upgrade, Addenda #1- #5; DR 1-7  
PTL # 22821, 23008-11, 23406, 23407

The sewage treatment works has been designed on an average daily flow of 22.0 MGD and a projected peak day flow of 49.5 MGD based on a 2.25 peak factor. The plant is designed to pass peak hour flows of 60 MGD. The proposed facilities have been designed to comply with average monthly effluent limits of 10/12 mg/l CBOD<sub>5</sub> (June-Dec/Jan-May); 30 mg/l TSS; 4.2/8.5 mg/l ammonia-N (June-Dec/Jan-May); pH range of 6.5 – 9.5 S.U.; 0.013 mg/l TRC; and a minimum DO of 6.5 mg/l. Additionally, the project is designed to meet an annual average total nitrogen concentration of 3.8 mg/l and an annual average total phosphorus concentration of 0.28 mg/l. The discharge point is unchanged.

The project consists of replacing 2 and installing one new mechanical screen; constructing a second influent pump station; adding two new grit removal units; upgrading the primary clarifier sludge withdrawal system; reconfiguring the 8 existing bioreactors; adding four new bioreactors; adding 6 secondary anoxic tanks; adding 4 new blowers for the bioreactors and secondary anoxic tanks; adding two new secondary clarifiers and upgrading existing clarifiers; renovating the pump station to filters; adding two new chlorine contact tanks; modifying the chlorination/dechlorination feed and storage facilities; adding ferric chloride, acetic acid, and polymer feed facilities; converting one DAF to a sludge fermenter; adding two new gravity belt thickeners; adding one new belt press; adding 3 new sludge storage tanks with aeration; adding recirculation to the existing digesters; adding a second effluent flow metering box; and miscellaneous upgrades.

This facility has been designated Reliability Class I and will continue to meet the requirements of this classification by the provision of dual power feeds; onsite audio/visual alarms for critical systems; continuous monitoring of systems via SCADA system; and telemetry.

The evaluation of these plans, specifications, and addenda has been confined to technical requirements and design criteria as stipulated in the Commonwealth of Virginia's *Sewage Collection and Treatment Regulations* (9 VAC 25-790).

In accordance with the *Code of Virginia* 1950, as amended, Title 62.1, Section 62.1-44.19, this letter report is to advise that the previously mentioned plans, specifications, addenda, and design revisions are technically adequate and are approved with the following conditions:

1. An operation and maintenance manual for the facility is to be submitted to this Department for approval in accordance with the facility's VPDES permit.
2. The digester recirculation equipment is to be tested to verify adequate mixing in accordance with Specification section 11340. Should the testing fail to demonstrate adequate mixing, steps shall be taken to correct the problem.

This letter provides your authorization to construct the previously described project. The approval is valid for a period of 5 years from the date of this letter. Please be aware that disturbance of any streams and/or wetlands may also require permitting. If you believe that this may be the case, please contact the Valley Regional DEQ Office for further information on the permitting process.

Once construction is complete, a Statement of Completion of Construction must be submitted to this office in compliance with the requirements of 9 VAC 25-790-180.C. by the licensed engineer who oversaw construction of the project. At that time, the Valley Regional office will initiate the Certificate to Operate (CTO) issuance process. Please note that issuance of a conditional CTO, as noted above, will satisfy the requirement to obtain a CTO in order to retain nutrient wasteload

Mr. Poe  
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LOCATION: Rockingham County  
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allocations as long as the construction project is completed within the regulatory deadline as outlined in 9 VAC 25-820.

One copy of the previously described plans, specifications, addenda, and design revisions with Office of Wastewater Engineering approval stickers will be mailed under separate cover.

Sincerely,



Marcia J. Degen, Ph.D., P.E.  
Technical Program Manager  
Office of Wastewater Engineering

Attachment

Cc: Mr. William Meinert, P.E., O'Brien & Gere  
Rockingham County Building Official  
Rockingham County Health Department  
DEQ-VRO-Permits  
Rick Fowley, DEQ-VRO-VRLF  
Kemper Loyd, DEQ-VRO-OWE with enclosures  
R. Ehrhart, DEQ-CO-WQIF

# HRRSA

## HARRISONBURG-ROCKINGHAM REGIONAL SEWER AUTHORITY

Post Office Box 8  
856 North River Road  
Mt. Crawford, VA 22841  
Telephone: 540-434-1053  
Facsimile: 540-434-5160

August 31, 2007

Mr. Matthew S. Ulliman  
Vice President  
Ulliman Schutte Construction, LLC  
9900 Springboro Pike  
Miamisburg, OH 45342

Re: Notice to Proceed  
Expansion and ENR Upgrade at the North River Wastewater Treatment Facility

Dear Mr. Ulliman:

This letter shall serve as the Notice to Proceed with Contract No. 1, HRRSA North River WWTF Expansion and ENR Upgrade effective September 17, 2007.

The contract milestone dates are:

- initiate performance testing - July 17, 2010 (1,034 calendar days)
- substantial completion - September 16, 2010 (1,095 calendar days)
- final completion - November 16, 2010 (1,156 calendar days)

We have enclosed one fully executed copy of the contract agreement for your use.

Please feel free to contact me should you have any questions in this matter. We look forward to working with you on this project.

Sincerely,



Curtis L. Poe, P.E.  
Executive Director

cc: William J. Meinert, P.E., Vice President, O'Brien & Gere Engineers, Inc.